

la belle époque:

Jules Henri Poincaré



Why Poincare?



- Polymath
- “The Last Universalist”
- Algebra
- Geometry
- Physics
- Croissant

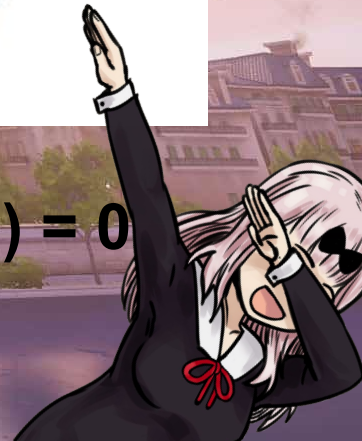
Topology

Poincare is believed to be the developer of the very foundations of topology

His research led to the abstract topological definitions, basic concepts of combinatoric topology and the famous Euler-Poincare formula:



$$V - E + F - (L - F) - 2(S - G) = 0$$



Algebra and number theory



It is Poincare who we should
thank for making group
theory a very important
instrument in theoretical
physics

He also contributed to the theory
of discrete groups and their
representations



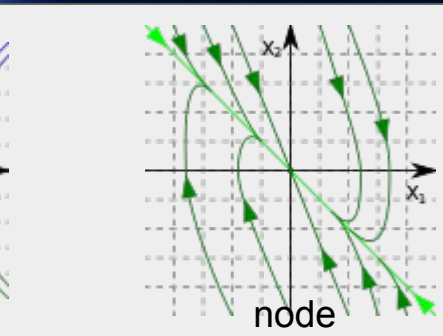
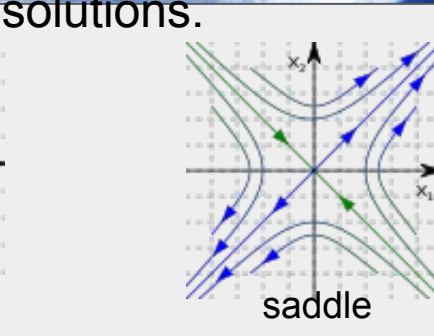
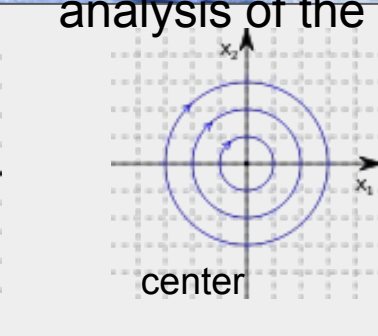
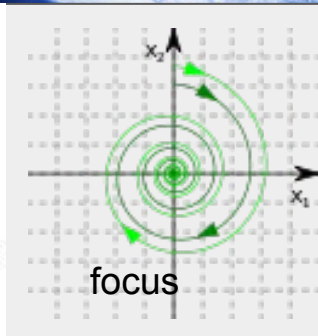
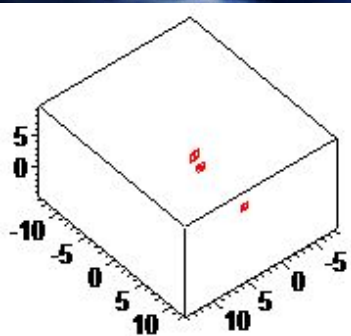
Astronomy and celestial mechanics

Poincare studied the three-body problem and details of its recently obtained solutions and proved that this problem isn't integrable.

Poincare's ideas later became a base for the mathematical "chaos theory" and general theory of dynamical systems.

Poincare had defended his doctoral thesis on the study of singular points of the system of differential equations.

He classified the singular points and created the asymptotic analysis of the solutions.



Principles of relativity

Poincare made a major contribution
to the relativity

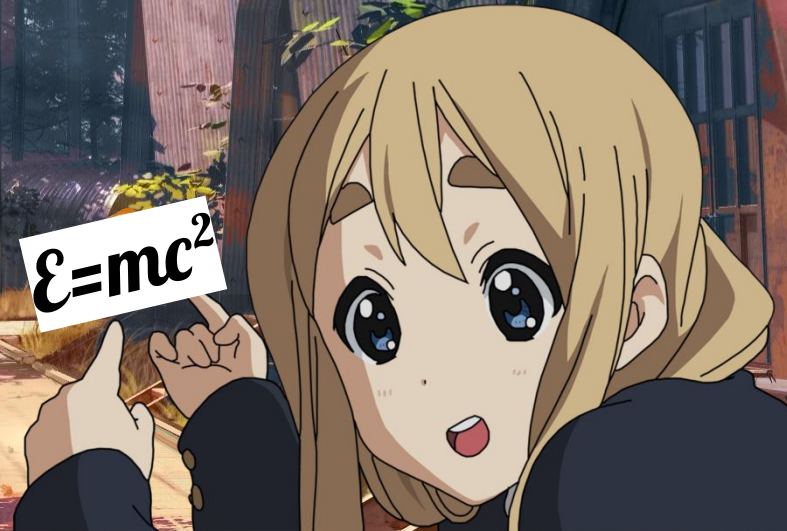
$$t' = t - vx/c^2$$

$$s^2 = c^2 t^2 - x^2 - y^2 - z^2$$

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$$\mathbf{R}^{1,3} \rtimes \mathbf{O}(1,3)$$

$$E=mc^2$$



And many other things!

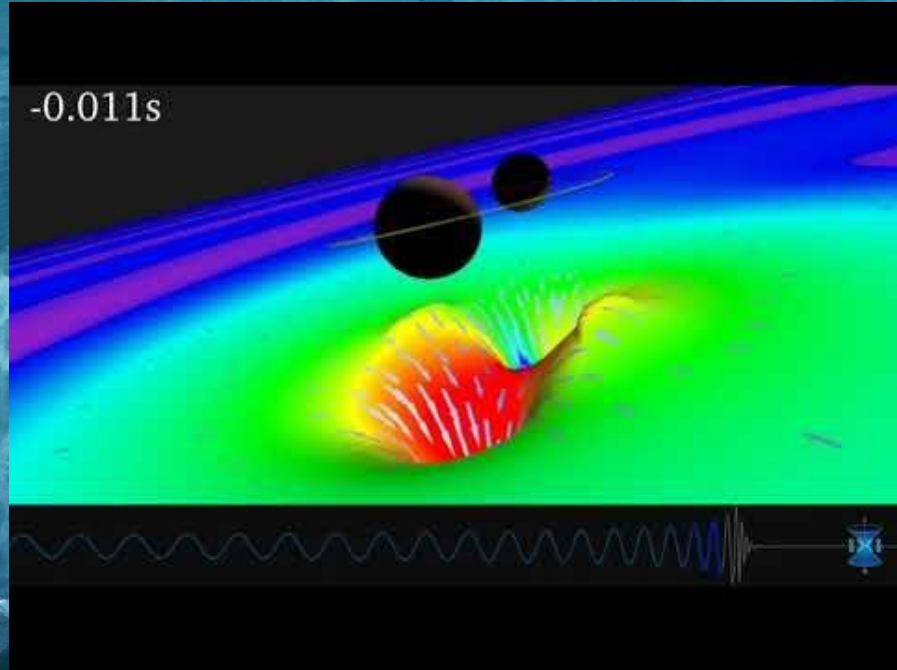
『D I O』 phantime equations

Supported quantum mechanics

abelian functions

Gravitational waves

Theory of electromagnetism



Poincare is a good boy, give him a pat and a отл(10) to us

Thank you for
your attention!



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